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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,171	12/21/2000	Marc Thomas Edgar	85CF-00109	2919

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EXAMINER

ALPERT, JAMES M

ART UNIT	PAPER NUMBER
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3624

DATE MAILED: 01/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/746,171	EDGAR ET AL.	
	Examiner	Art Unit	
	James Alpert	3624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2000.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

All non-final actions previously mailed are hereby withdrawn. Claims 1 - 30 remain pending, and the objections and rejections are as stated below.

Claim Rejections - 35 USC § 101

35 U.S.C. §101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. §101 requires that in order to be patentable the invention must be a "new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof" (emphasis added).

Claims 1-10 are rejected under 35 U.S.C. §101 because the claimed invention is directed to a non-statutory subject matter. Specifically the method claims as presented do not claim a technological basis in the pre-amble and the body of the claim. Without a claimed basis, the claim may be interpreted in an alternative as involving no more than a manipulation of an abstract idea and therefore non-statutory under 35 U.S.C. §101. In contrast, a method claim that includes in the body of the claim structural / functional interrelationship which can only be computer implemented is considered to have a technological basis [See Ex parte Bowman, 61 USPQ2d 1669, 1671 (Bd. Pat. App. & Inter. 2001) - used only for content and reasoning since not precedential].

Claims 1-10 are directed to a method for correlating descriptive attributes of a portfolio of assets. However, the preamble and the body of the claims do not indicate that the claims are within the technological arts. To overcome this deficiency, claim

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language should be considered such that both the preamble and body of the claim indicate that they are grounded within a technological art.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3,5-6,8-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Freeman et al., U.S. Patent #6249775.

With regard to Claim 1,11,21, Freeman teaches a system, method and computer for:

identifying descriptive attribute variables in the portfolio;
(Col. 7 line 65 – Col. 8 line 10, Col. 8 lines 33 – 44, Col. 15 lines 20-28)

calculating a value of a response variable or frequency of occurrence for levels or bins of individual attribute variables and pairs of attribute variables;
(Col. 11 lines 31-51, Tables I,2,3, Col. 17 lines 27-38)

grouping the assets according to the value of a response variable or frequency of occurrence of the individual attribute variables; and
(Col. 11 lines 31-51, Tables I,2,3)

displaying the groupings.
(Col. 11 line 52 – Col. 12 lines 44)

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With regard to Claim 2,12,22, Freeman teaches a system, method and computer wherein:

said step of identifying descriptive attribute variables further comprises the step of determining if the variable type is continuous or categorical.
(Col. 12 lines 35-44)

With regard to Claim 3,13,23, Freeman teaches a system, method and computer comprising:

computing an average response value for categorical variables; computing bins for continuous variables; and computing an average bin response.
(Col. 8 line 63 – Col. 9 line 12)

With regard to Claim 5,15,25 Freeman teaches a system, method and computer wherein:

said step of grouping the assets further comprises the step of computing an average for a response variable for all combinations of pairs of attribute variables, and the levels of the attribute variables. (Col. 8 line 63 – Col. 9 line 12)

With regard to Claim 6,16,26 Freeman teaches a system, method and computer further comprising:

computing an expected value of the response variable from a weighted value of occurrence for the separate attribute variables. (Col. 8 line 63 – Col. 9 line 12)

With regard to Claim 8,18,28 Freeman teaches a system, method and computer further comprising:

computing a deviation of the response variable from the expected value of the response variable, where the deviation is the average value of the response variable minus the expected value. (Col. 3 lines 23-42)

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With regard to Claim 9,19,29 Freeman teaches a system, method and computer further comprising:

displaying a graphical embodiment of the response variables and expected values of the response variables. (Figures 5,6,9)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4,7,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman et al., U.S. Patent #6249775. Whereas Freeman teaches a system, method and computer designed for correlating descriptive attributes of a portfolio of assets, as is analyzed under Claim 1, Freeman fails to disclose some limitations.

With regard to Claim 4,14,24, Freeman fails to explicitly disclose a system, method and computer comprising a step for:

calculating an average value of a response variable according to the formula:

$$Y(r) \text{ Average} = \text{sum}(Y(x_1 = a \text{ and } x_2 = b)) / \text{count}(x_1 = a \text{ and } x_2 = b),$$
where x_1 are categorical variables and x_2 are continuous variables.

The examiner interprets this expression as simply the calculation of an average value. The examiner takes Official Notice that utilizing a calculated average value in a statistical portfolio analysis is an old and well known practice in the art, and as such, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to modify the teachings of Freeman relating to the analysis of a

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pool of instruments, to include an average value formula as depicted above in order to ensure a broad, comprehensive statistical analysis of data.

With regard to Claim 7,17,27, Freeman fails to explicitly disclose a system, method and computer comprising a step for:

computing an expected value according to the formula:

$$Y(r) \text{ expected} = \frac{[\text{sum}(Y(x1=a)) * \text{count}(x1=a) + \text{sum}(Y(x2=b)) * \text{count}(x2=b)]}{[\text{count}(x1=a) * \text{count}(x2=b)]}$$

where x1 are categorical variables and x2 are continuous variables.

The examiner interprets this expression as simply the calculation of a probabilistic average. The examiner takes Official Notice that calculating an expected or probabilistic average value in a statistical portfolio analysis is a old and well known practice in the art, and as such, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to modify the teachings of Freeman relating to the analysis of a pool of instruments, to include an expected or probabilistic average value formula as depicted above in order to ensure a broad, comprehensive statistical analysis of data.

With regard to Claim 10,20,30, Freeman fails to explicitly disclose a system, method and computer comprising a step for:

displaying a graphical embodiment further comprises the step of displaying a three dimensional visualization of the response variables and expected values of the response variables.

The examiner takes Official Notice that the use of three dimensional visualizations in depicting characteristics of a portfolio analysis is an old and well know practice in the art, and as such, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to modify the teachings of Freeman

relating to graphical interpretation of average values of response variables, to include a three dimensional visualization in order to ensure an easy-to-use, easy-to-understand mechanism for interpreting the results of a statistical analysis.

Conclusion

The prior art made of record and not relied upon, considered pertinent to applicant's disclosure is listed below:

- a) Pang et al., U.S. Patent #6546375, April 8, 2003, Apparatus and Method of Pricing Financial Derivatives.
- b) Thiesson et al., U.S. Patent #6408290, June 18, 2002, Mixtures of Bayesian Networks with Decision Graphs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Alpert whose telephone number is (703) 305-4001. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on (703) 308-1065. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James M. Alpert
January 5, 2005



Alan H. Borne
PRIMARY
AU 3624